OPTIONAL EXTRA ASSIGNMENT
for
EM211 SECTIONS 2005 & 3004

This assignment is optional. I suggest only those who scored badly on the last test attempt it, but the choice is yours! If you hand in an attempt, it will be graded and will count towards your 6-week grade. Otherwise (i.e. no submission) your 6-week grade is based on the test I handed back 9/17/97 and your homework. There is no penalty for not submitting this optional assignment.

THE ASSIGNMENT:
Write a Quattro-Pro spreadsheet that takes as input up to 10 planar forces and their directions (measured in degrees counterclockwise from the x-axis). The spreadsheet will calculate as output:

a) The resultant force in (x,y) components.
b) The magnitude of the resultant.
c) The direction of the resultant in degrees counterclockwise from the x-axis.

SUBMIT in class on Monday 9/22/97:

a) Written explanation of how you worked the assignment (equations, spreadsheet formulae, etc.)
b) A paper printout of the resulting Quattro Pro spreadsheet.

NOTE:
Layout and presentation will be given a high priority in the grading. That means make your printout look visually attractive! Also, keep it to a single sheet (one side only.)

Your spreadsheet must give the right answers! Use the following test data to check it. If you can't get the right answers, maybe see me for EI afterwards.

Force (N)	Angle (degrees)
800	150
300	0
400	90
P	θ

For the case P=500 N and $\theta=25^o$ the resultant should be 1013 N at 86.6^o
For the case P=1000 N and $\theta=300^o$ the resultant should be 125.9 N at 328.4^o